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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,404	10/11/2001	Thomas Keith Blankenship	CR00261M	1187

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EXAMINER

FAN, CHIEH M

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/975,404

Applicant(s)

BLANKENSHIP ET AL.

Examiner

Chieh M Fan

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/11/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10112001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: proper antecedent basis should be provided for the claimed limitation "computer program code" in claims 10-18. Furthermore, the mathematical expression in page 6 is hard to read.

Claim Objections

2. Claim 28 is objected to. It appears that "wherein the at least decoder comprises:" should be inserted before the limitation "means for dividing" because the means for dividing, means for selecting and means for computing should be part of the decoder.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1-7, 10-16, 19-24 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-7, the limitation “dividing the information sequence into a current window and at least one additional window”, as recited in lines 3-4 of claim 1, implies that there may be one or more additional windows. When there are plural additional windows, it is not clear the limitation “the additional window” recited in line 7 and in line 8 is referred to “any one of the additional windows” or “all of the additional windows”.

Regarding claims 10-16, 19-24 and 28, the independent claims 10, 19 and 28 recite similar limitations as claim 1 and are therefore rejected for the same reason above.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 3, 4, 6, 8-10, 12, 13, 15 17-19, 21, 22, 24, 26 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Classon et al. (U.S. Patent No. 6,856,657, "Classon" hereinafter)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1, 10 and 19, Classon teaches a method for processing an information sequence with an iterative decoder (see claim 1, col. 9, lines 40-67), comprising: dividing the information sequence (step (a) in claim 1) into a current window (2 in Fig. 6) and at least one additional window (1, 3 in Fig. 6), selecting the current window of the information sequence (2 in Fig. 6); and computing at least one metric value for a current recursion of the current window based on metric values from the additional window of the information sequence (step (e) in claim 1), wherein the additional window is from a past iteration (Classon teaches that the method iterates from step (b) to (g), see claim 9, and the information is divided in step (a). Therefore, the partition of the data windows is not changed with the iterations. That is, the additional window of the current iteration is from a past iteration). Note that Classon further teaches the method is performed using a specific IC (non-DSP ASIC) (col. 9, line 24), which reads on the claimed computer program code in claim 10.

Regarding claims 3, 12 and 21, Classon further teaches processing the metric values from the additional window of the information sequence (see steps (c)-(e) of claim 1, that is, the method decodes the current window using a forward recursion starting from the known state, i.e., metric values, at the beginning of the current window determined in step (c)).

Regarding claim 4, 13 and 22, Classon further teaches storing the processed metric values (14 in Fig. 7).

Regarding claim 6, 15 and 24, Classon further teaches assigning the metric values from the additional window of the information sequence (see steps (c)-(e) of claim 1, that is, the method decodes the current window using the known state, i.e., metric values determined in step (c) to initialize a forward recursion at the beginning of the current window).

Regarding claims 8, 17 and 26, Classon teaches a method (see claim 1, col. 9, lines 40-67) for processing an information sequence, comprising selecting a current window of the information sequence during a current iteration (1 or 3 in Fig. 6), selecting an additional window of the information sequence (2 in Fig. 6), wherein the additional window is for a future iteration (Classon teaches that the method iterates from step (b) to (g), see claim 9, and the information is divided in step (a). Therefore, the partition of the data windows is not changed with the iterations. That is, the additional window of the current iteration is for a future iteration), recursively computing a metric value for the current window (see claim 1, step (b) or (c)); and processing the metric value for the current window for use in the additional window (see claim 1, step (e)). Note that

Classon further teaches the method is performed using a specific IC (non-DSP ASIC) (col. 9, line 24), which reads on the claimed computer program code in claim 17.

Regarding claims 9, 18 and 27, Classon further teaches storing the processed metric values (14 in Fig. 7).

7. Claim 28 is rejected under 35 U.S.C. 102(e) as being anticipated by Xu (U.S. Patent No. 6,829,313).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Xu teaches a turbo decoding system comprising: at least one interleaver (INT in Fig. 8); at least one de-interleaver (DEINT in Fig. 8); at least one decoder; (SISO I or SISO II in Fig. 8); means for dividing an information sequence into a current window and at least one additional window (see step (a) in claim 1); means for selecting the current window of the information sequence (see step (b) in claim 1); and means for computing at least one metric value for a current recursion of the current window based on metric values from the additional window of the information sequence (see step (d) in claim 1), wherein the additional window is from a past iteration (Xu teaches that the method iterates from step (b) to (g), see step (h) of claim 1, and the information is divided in

step (a). Therefore, the partition of the data windows is not changed with the iterations. That is, the additional window of the current iteration is from a past iteration).


Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Levy (U.S. Patent No. 6,857,101), Eidson (U.S. 6,813,743) and Crozier (U.S. Patent No. 6,510,536).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M Fan whose telephone number is (571) 272-3042. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM, Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Chieh M Fan
Primary Examiner
Art Unit 2634

March 6, 2005